DOCUMENT RESUME

ED 359 726 EC 302 291

TITLE	The Findings and Activities of the Texas Commission on Braille Textbook Production. A Report from the State Board of Education, Submitted to the Governor, Lt. Governor, Speaker, and the Seventy-Third Texas Legislature. Excellence and Equity for All Students.
INSTITUTION	Texas Education Agency, Austin.
REPORT NO	TEA-GE3-714-02
PUB DATE	Mar 93
NOTE	23p.
AVAILABLE FROM	Texas Education Agency, Publications Distribution Office, 1701 N. Congress Ave., Austin, TX 78701-1494 ($2).
PUB TYPE	Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Accessibility (for Disabled); *Blindness; *Braille; Computer Software; Elementary Secondary Education; Instructional Materials; *Publishing Industry; State Programs; *Textbook Publication; Textbooks; *Visual Impairments
IDENTIFIERS	*Texas

ABSTRACT

This report describes activities and recommendations of the Texas Commission on Braille Textbook Production, which monitors the acquisition Commission on Braille Textbook Production. The primary purpose of the commission is to monitor the expeditious acquisition of publisher computerized files in the form of textbook diskettes which are needed for more timely production of braille textbooks through the use of braille translation software. This charge has been interpreted by the commission as the responsibility for assuring the timely delivery of braille textbooks to Texas public school students who are blind or visually impaired. The Commission found that Texas has the most technologically advanced and efficient braille textbook production system in the United States. Findings and recommendations address: the definition of literary textbooks, optional computerized file formatting standards for textbooks, funding for the preparation of computerized textbook files, mandatory dates for delivery of diskettes and corrections to textbooks, promoting timely delivery of braille textbooks, transmission of computerized textbook files, cooperation with national efforts, workbooks and supplementary materials, interlining for grades 3 and below, graphics, music textbooks, typing textbooks, electronic instructional media systems, braille producer and consumer communication, braille producer and publisher communication, the Commission's resolution on braille, adoptions of state textbooks, and continuation of the Commission. Two legislative recommendations urge modifying the Texas Education Code to require publishers to provide computerized textbook files and authorizing the State Board of Education to acquire, purchase, and contract for free ancillary and supplementary instructional materials (such as workbooks) for braille-reading students when available. (DB)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED359726

EXCELLENCE AND EQUITY
FOR ALL STUDENTS
March 1993

REPORT ON THE FINDINGS AND ACTIVITIES OF THE TEXAS COMMISSION ON BRAILLE TEXTBOOK PRODUCTION

Texas Education Agency
Austin, Texas

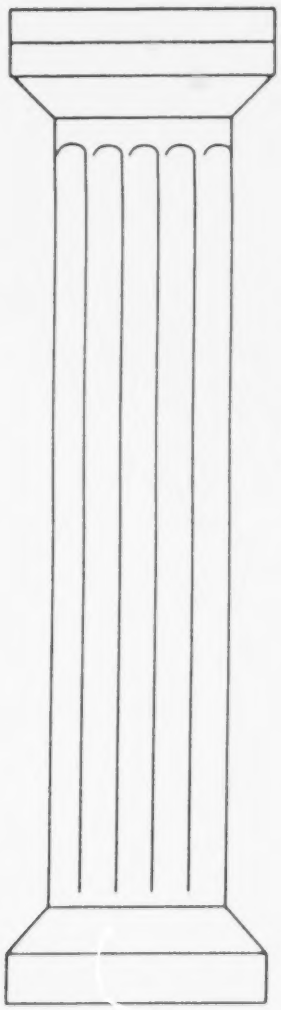
EC 302291

BEST COPY AVAILABLE

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Linda Kemp

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EXCELLENCE AND EQUITY
FOR ALL STUDENTS
March 1993



THE FINDINGS AND ACTIVITIES OF THE TEXAS COMMISSION ON BRAILLE TEXTBOOK PRODUCTION

A REPORT
FROM THE STATE BOARD OF EDUCATION

Submitted to the Governor, Lieutenant Governor, Speaker, and the Seventy-Third Texas Legislature

Texas Education Agency
Austin, Texas

This publication is not copyrighted; any or all sections may be duplicated.

After an initial free distribution to authorized institutions, additional copies may be purchased for $2 from the Publications Distribution Office of the Texas Education Agency, 1701 North Congress Avenue, Austin, TX 78701-1494.

March 1993

The Honorable Ann W. Richards, Governor of Texas
The Honorable Bob Bullock, Lieutenant Governor of Texas
The Honorable Pete Laney, Speaker of the House
Members of the 73rd Texas Legislature

The State Board of Education is pleased to provide this report on the implementation of Section 12.03 (e-l), Texas Education Code. *The Report on the Findings and Activities of the Texas Commission on Braille Textbook Production* covers the agency's response to legislation requiring first, that publishers provide textbook electronic files for more timely production and delivery of braille textbooks to public school students who are visually handicapped, and secondly, that the Board establish a commission to work closely with publishers to acquire usable computerized textbook files for production of braille textbooks.

The report discusses optional textbook file-formatting standards which meet the approval of publishers and braille producers and outlines an implementation schedule for use of the various standards. Also included are three supplemental legislative recommendations which are offered to further expand the availability of educational materials to public school students who are visually handicapped.

The Board approved this report at its meeting in March 1993, and the report is now transmitted to you as required by state law.

Respectfully submitted,

Carolyn Crawford

Carolyn Honea Crawford, Chairman
State Board of Education

STATE BOARD OF EDUCATION (State Board for Vocational Education)

CAROLYN HONEA CRAWFORD
Beaumont
Chairman
District 7

WILL D. DAVIS
Austin
Vice Chairman
District 10

MARY HELEN BERLANGA
Corpus Christi
Secretary
District 2

ALMA A. ALLEN
Houston
District 4

JACK CHRISTIE
Houston
District 6

EMMETT J. CONRAD
Dallas
District 13

MONTE HASIE
Lubbock
District 15

WILLIAM L. HUDSON
Wichita Falls
District 14

PATSY JOHNSON
Sulphur Springs
District 9

GERALDINE MILLER
Dallas
District 12

RENE NUNEZ
El Paso
District 1

ROBERT H. OFFUTT
San Antonio
District 5

DIANE PATRICK
Arlington
District 11

MARY KNOTTS PERKINS
Lufkin
District 8

ESTEBAN SOSA
San Antonio
District 3

LIONEL R. MENO, Commissioner of Education
(Executive Officer of the State Board of Education)

COMMITTEES OF THE STATE BOARD OF EDUCATION

Personnel
RENE NUNEZ, Chairman
ALMA A. ALLEN
JACK CHRISTIE
EMMETT J. CONRAD
DIANE PATRICK

Students
GERALDINE MILLER, Chairman
MARY HELEN BERLANGA
PATSY JOHNSON
ROBERT H. OFFUTT
MARY KNOTTS PERKINS

School Finance
WILL D. DAVIS, Co-chairman
WILLIAM L. HUDSON, Co-chairman
CAROLYN HONEA CRAWFORD
MONTE HASIE
ESTEBAN SOSA

Long-Range Planning
MARY KNOTTS PERKINS, Chairman
ALMA A. ALLEN
JACK CHRISTIE
EMMETT J. CONRAD
CAROLYN HONEA CRAWFORD
WILL D. DAVIS
PATSY JOHNSON
DIANE PATRICK

Permanent School Fund
ESTEBAN SOSA, Chairman
MARY HELEN BERLANGA
MONTE HASIE
WILLIAM L. HUDSON
GERALDINE MILLER
RENE NUNEZ
ROBERT H. OFFUTT

TEXAS COMMISSION ON BRAILLE TEXTBOOK PRODUCTION

DR. PHILIP H. HATLEN
Chairman
Superintendent, Texas School for the Blind and Visually Impaired
Austin, Texas

*George Kerscher, Director
Research and Development
Recording for the Blind
Missoula, Montana

**David Holladay, President
and Chief Programmer
Raised Dot Computing Company
Madison, Wisconsin

**Joseph E. Sullivan, President
Duxbury Systems, Inc.
Littleton, Massachusetts

Marilyn Williams, Vice President
Prentice-Hall School Division
Simon and Schuster
Englewood Cliffs, New Jersey

Brian T. Scarlett, Vice President
Houghton Mifflin Company
Boston, Massachusetts

Alice Joyce Rodriguez
Teacher of the Visually
Handicapped
Corpus Christi, Texas

Ann Silverrain, Braille Project
Coordinator
Region XX Education Service Center
San Antonio, Texas

Diane Spence, Coordinator
Computer Braille Center
Region IV Education Service Center
Houston, Texas

Charles E. Mayo, Manager
Braille, Large Type, and Audiotape
Textbook Program
Texas Education Agency
Austin, Texas

Joanne Miller Rodriguez, President
Pinnacle Education Associates
Grapevine, Texas

Eura Mae Harmon, President
Amarillo Chapter, National
Federation of the Blind of Texas
Amarillo, Texas

*Chairman of The International Committee for Accessible Document Design (ICADD)

**Members of ICADD

CONTENTS

Introduction 1

Commission Activity Highlights 3

Findings and Recommendations 5

1 Definition of Literary Textbooks 5
2 Optional Computerized File Formatting Standards for Textbooks 5
3 Funding for the Preparation of Computerized Textbook Files 9
4 Mandatory Dates for Delivery of Diskettes and Corrections to Textbooks 9
5 Promoting Timely Delivery of Braille Textbooks 10
6 Transmission of Computerized Textbook Files 10
7 Cooperation with National Efforts 10
8 Workbooks and Supplementary Materials 10
9 Interlining for Grades 3 and Below 11
10 Graphics 11
11 Music Textbooks 11
12 Typing Textbooks 11
13 Electronic Instructional Media Systems 12
14 Braille Producer and Consumer Communication 12
15 Braille Producer and Publisher Communication 12
16 Commission's Resolution on Braille 12
17 Adoptions of State Textbooks 13
18 Continuation of the Commission 13

Summary of Legislative Recommendations 15

References 17

INTRODUCTION

The Texas Commission on Braille Textbook Production was established by HB 2277, the Braille Literacy Act of Texas, 72nd Legislature. The primary purpose of the commission is to monitor the expeditious acquisition of publisher computerized files in the form of textbook diskettes which are needed for more timely production of braille textbooks through the use of braille translation software. This charge has been interpreted by the commission as the responsibility for assuring the timely delivery of braille textbooks to Texas public school students who are blind or visually impaired.

HB 2277 contains four major parts. The first addresses the need for braille reading and writing instruction for all students who are functionally blind and for whom it was considered appropriate. The second specifies that requirements for testing the competence of teachers in instruction in braille reading and writing will be established. The third part establishes requirements for textbook publishers to provide computerized files from which braille textbooks can be produced. Last, HB 2277 mandates that the Central Education Agency establish a commission to assure implementation of a workable, reasonable program for the delivery of computerized files to the Texas Education Agency, and to monitor the timely delivery of braille books.

The primary purpose of the commission is to monitor the expeditious acquisition of publisher computerized files in the form of textbook diskettes which are needed for more timely production of braille textbooks through the use of braille translation software.

The State Board of Education carefully selected members of the Commission on Braille Textbook Production so that the publishing, braille software development, braille textbook production, and braille consumer communities were represented. The 12-member commission is composed of:

- three representatives of textbook publishing companies;
- three experts in the development of computer software for braille production;
- one representative of braille consumers;
- one teacher of blind and visually impaired students;
- two braille textbook producers;
- one representative of the Texas Education Agency; and
- one representative of professionals who are experts in braille.

The commission found that Texas has the most technologically advanced and efficient braille textbook production system in the United States. Braille producers have the most advanced equipment available, and are well organized and effective.

The commission has also determined that the computerized files provided by textbook publishers in December 1991 and 1992 have greatly enhanced the capability of braille producers and the Texas Education Agency to deliver entire textbooks to school districts in time for the beginning of a school year. Braille-reading students in Texas have an educational right to receive their textbooks in a timely manner. Teachers and students prefer to receive entire textbooks at the beginning of the school year, in contrast to having books delivered in sections throughout the year. From 6 to 24 months are required to produce a braille textbook, depending on the complexity of the subject and the size of the book. Therefore, producers must have sufficient time to begin work on the translation of textbooks into braille in order to meet student and teacher needs.

The commission commended the Texas Education Agency, textbook publishers, and braille producers for their exceptionally successful efforts in rapidly beginning this new textbook diskette acquisition process that has received the attention and admiration of every state in the country.

The commission has indicated that it is essential that the agency and braille producers continue to monitor the time lines for delivery of textbooks in braille.

The commission found that Texas has the most technologically advanced and efficient braille textbook production system in the United States.

COMMISSION ACTIVITY HIGHLIGHTS

Since its appointment, the Texas Commission on Braille Textbook Production has taken several actions to implement statutory requirements and to enhance the timely delivery of braille textbooks to public school students who are braille readers. Highlights of commission activities include:

- working closely with publishers to acquire usable computerized textbook files on diskettes for faster production of braille textbooks;
- surveying efforts to convert publisher files to standardized formats;
- studying the feasibility of transmitting textbook files by modem;
- developing new computerized file-formatting options for immediate use by publishers;
- cooperating with international efforts to develop long-term computerized file-formatting standards consistent with evolving publishing industry technology;
- reviewing the quality of computerized textbook files provided by publishers; and
- surveying the development of software used in Electronic Instructional Media Systems (EIMS) to insure that future systems are fully accessible to blind and visually impaired students.

FINDINGS AND RECOMMENDATIONS

1 Definition of Literary Textbooks

The definition of literary textbooks should be expanded to include most roman-alphabet foreign language textbooks. Computerized braille translators are able to process many computerized foreign language textbook files now.

In cases where it is questionable whether a textbook is literary, publishers should contact the agency concerning the need for providing computerized files. The agency should request computerized files for other non-literary subjects on a case-by-case basis as the technology becomes available and as deemed appropriate by review of textbook content. The agency and braille producers should work closely together to make maximum use of producer capabilities for brailling non-literary textbooks from publisher-provided computerized textbook files. Publishers should be notified at least three years in advance of new computerized textbook file delivery requirements (e.g., by April 1993 for the April 1996 submission).

2 Optional Computerized File Formatting Standards for Textbooks

The definition of literary textbooks should be expanded to include most roman-alphabet foreign language textbooks. Computerized braille translators are able to process many computerized foreign language textbook files now.

The key to using computers for the fastest possible production of braille textbooks is to require that publishers provide computerized textbook files in a standard format. Achieving standardization is an evolutionary process.

Although the most widely used computer character code, the American Standard Code for Information Interchange (ASCII), is the data format in which publishers are required by Texas Education Code (TEC) Section 12.03(e) to provide textbook information on diskettes, ASCII, especially the most basic variety, "Flat ASCII" is not a sufficient description of files for the purpose of producing braille books with braille translation software.

Braille production is based largely on the structure or form of the text being considered (e.g., headings, paragraphs, lists, quotations, bold text and italicized text) and braille translation

Another way to structure publisher computer text files into a common format for brailling is to require use of a rapidly emerging publishing industry standard known as Standard Generalized Markup Language (SGML).

software focuses on the form or structure of text. In order for the software to work effectively, it must be able to process publisher text files which have been arranged in a common or standard structure.

Currently, there is no established text formatting standard in the United States publishing industry, but many of the formatting rules used in various typesetting and composition systems are identical or very close to those used in the braille grammar for textbooks and braille translation software. However, most publisher typesetting or composition systems follow other proprietary text formatting rules as well. These are not reflected in the braille grammar for textbooks nor braille translation software.

One way to structure all publisher provided computer text files into a common format for brailling purposes is to strip all publisher text files down to their most basic form, ASCII. The problem with this approach is that too many of the text formatting commands (i.e., rules) which are common to publisher typesetting systems and braille grammar are removed. A "Flat ASCII" file contains only text, with no marking or tagging of headings, paragraph beginnings, endings, emphasis, and bolding.

Another way to structure publisher computer text files into a common format for brailling is to require use of a rapidly emerging publishing industry standard known as Standard Generalized Markup Language (SGML). As indicated by Mike Ricciuti in the December 1992 issue of Datamation magazine, "...SGML defines each element of a document, like a headline, paragraph, drawing, chart, as a single data object, related to other data objects within a document."

Ricciuti indicates that there are several reasons for SGML's rising popularity. These include the following:

- A number of United States government "agencies now require vendors that do business with them to supply documentation electronically in SGML format."
- SGML is also finding "a toe hold in commercial, corporate applications as a document interchange standard."
- The trend in many industries is "to demand highly structured documents that conform to a defined specification."
- "Document elements can be stored, managed and recalled using SGML, and can be imported into any word processor or publishing system that supports SGML, regardless of hardware or operating system."

Some publishers do not have the capability to use SGML at this time, and for them ASCII should remain an option which they can use for preparing computerized files needed for braille textbook production.

ASCII and SGML may be seen as being at opposite ends of a formatting scale. ASCII data is not formatted and SGML provides detailed marking of text. Between ASCII and SGML, there are other formatting variations which some publishers may need to use in preparing computerized textbook files for brailling.

The commission has worked closely with an international study group, the International Committee for Accessible Document Design (ICADD), on designing an appropriate computerized textbook file formatting standard which is more useful than ASCII but not as complex as SGML. The commission and the ICADD have three members in common and the two groups have designed a compromise standard composed of 22 fundamental formatting rules (e.g., tags). This standard is known as the ICADD 22 Tag Set and for some publishers its use would be highly appropriate because it allows them to provide very useful files to braille producers without having to install new computer software systems at this time. Therefore, several options for formatting textbook data should be offered to publishers.

The commission recommends that:

A. The Texas Education Code, State Board of Education rules, and Texas Education Agency instructions to publishers be modified as appropriate to require that publishers use one of several optional text formatting standards for delivery of the most useful files for braille production.

B. The standards be modified in phases over a period of time to reflect expected changes in publishing industry technology (e.g., software). The proposed standards implementation schedule is as follows:

   1. **Phase I:** Immediately, through the April 1996 sample textbook submission to the Texas Education Agency with Board approval in November 1996

      Option A (*The Minimum Standard*): Sequentially ordered American Standard Code For Information Interchange (ASCII) files with:

Between ASCII and SGML, there are other formatting variations which some publishers may need to use in preparing computerized textbook files for brailling.

- paragraph notations
- well-organized, logically developed files
- full text, including glossaries, indices, and front matter
- accurately labeled disks to identify the title and chapters
- sequentially numbered disks

Option B: Improved files, beyond Option A, as agreed to by publishers and braille producers

Option C: The International Committee for Accessible Document Design 22 Tag Set

Option D: A full implementation of Standard Generalized Markup Language (SGML)

2. **Phase II:** From the April 1997 sample textbook submission to the Texas Education Agency with Board approval in November 1997

   Option A (*The Minimum Standard*): The International Committee for Accessible Document Design 22 Tag Set

   Option B: Improved files beyond Option A, as agreed to by publishers and braille producers

   Option C: A full implementation of Standard Generalized Markup Language (SGML)

C. Anything beyond the minimum standards agreed to by publishers and braille producers, such as implementation of the International Committee For Accessible Document Design (ICADD) 22 Tag Set, full Standard Generalized Markup Language, or other refinements should be accepted by the Texas Education Agency for any textbook adoption.

D. The implementation schedule should be reviewed on an annual basis by the commission to determine whether it should be accelerated or delayed.

E. Special instructions prepared for publishers regarding the delivery of computerized files for braille production should be reviewed by the commission prior to dissemination by the Texas Education Agency.

3 Funding for the Preparation of Computerized Textbook Files

By using the initial "first generation" diskettes prepared on the early ASCII formatting model for the November 1991 adoption, some Texas braille producers are experiencing savings of 23 percent in production time. However, some publishers have reported that the cost for preparing the files for faster braille production is extensive.

The appropriate group(s) or agencies (the Texas Education Agency, the commission, the State Board of Education (SBOE), or the legislature) should review and identify acceptable means of funding the actual cost of file preparation. Funding the preparation and acquisition of computerized files needed for faster braille textbook production should receive the highest priority.

4 Mandatory Dates for Delivery of Diskettes and Corrections to Textbooks

According to 19 Texas Administrative Code (TAC) Section 67.131, publishers are required to provide computerized textbook files on computer diskettes to braille producers not later than 30 days after adoption of the textbook and all information contained in the adopted student edition must be included on the set of diskettes. This schedule for diskette delivery does not provide ample time for braille producers to translate, print (i.e,. emboss) proofread and bind the entire textbook and deliver it to students by the first day of school. To reach the goal of providing entire textbooks to braille-reading students by the first day of school, braille producers must receive diskettes sooner. Braille producers would prefer to receive the diskettes sooner, even though all corrections and changes will not have been completed.

The commission recommends that the State Board of Education approve the following schedule:

1. Diskettes appropriately prepared but not including changes negotiated with the agency, plus three copies of the print book delivered to the Texas Education Agency two working days following adoption.

2. A list of page numbers where there are corrections and tearsheets with corrections be delivered to the Texas Education Agency 30 days after adoption of the textbooks.

5 Promoting Timely Delivery of Braille Textbooks

Braille-reading students in Texas must receive textbooks in a timely manner. They should receive the entire book at the beginning of the school year. The Texas Education Agency, braille producers, and the commission must monitor time lines for the delivery of state textbooks in braille.

6 Transmission of Computerized Textbook Files

TEC Section 12.03(e-1)(4)(C) requires the commission to study the feasibility of implementing a process by which textbook publishers can transmit computerized textbook files through modem communication directly to the computers of braille producers. The commission found that it is currently more feasible to transmit computerized files by mailing diskettes than by modem communication. Diskettes should continue to be delivered through the mail by using the most dependable known carrier. Mail should be used until such time as fast and efficient computerized file transfer is more feasible and widespread.

7 Cooperation with National Efforts

There are expanding national efforts to expedite braille production by using publisher's diskettes. The commission and the Texas Education Agency should maintain close contacts with organizations and agencies that are becoming involved with the use of publisher's diskettes for the production of braille books. The commission should carefully consider, at appropriate times, if, and to what extent, it may wish to recommend to the Texas Education Agency a collaboration with national efforts. It may soon be in the best interest of Texas to join a national effort to establish a repository of diskettes that can be utilized throughout the country.

8 Workbooks and Supplementary Materials

Providing workbooks and supplementary materials in braille is not covered by the Texas Education Code. The code should be amended to provide for braille production of workbooks and supplementary materials. Adopted Electronic Instructional Media Systems (EIMS) are not included in this recommendation.

Braille-reading students in Texas must receive textbooks in a timely manner. They should receive the entire book at the beginning of the school year.

9 Interlining for Grades 3 and Below

Interlining, print over braille, is very helpful for braille readers and teachers of braille readers at preschool through grade 3. Although mainstreamed students who are blind receive some instruction from teachers of the visually handicapped, these students spend many hours learning from teachers who are neither tactile nor sight braille readers. These teachers require print over braille to properly instruct (e.g., prompt) blind students. It is recommended that the Texas Education Agency explore methods to provide text with print over braille interlining for braille students in preschool through grade 3.

10 Graphics

The production of graphics contained in textbooks continues to be difficult and labor intensive. The commission actively encourages educators of students who are blind and consumers who are blind to research the effective preparation and use of graphics. The commission urges close communication between braille producers and teachers so meaningful graphics can be produced and used effectively.

11 Music Textbooks

Choral music textbooks for elementary grades are difficult to use if braille music is provided along with the words. Only the words of state-adopted choral music textbooks for elementary grades should be provided to students in braille. Textbook publishers are not generally expected to provide computerized files for these music texts.

12 Typing Textbooks

State-adopted typing textbooks are not needed in braille. Although there is information in these textbooks that should be accessible to blind and visually impaired students, these texts are designed primarily for reading while the student performs exercises on the keyboard. A blind student cannot read the textbook while simultaneously using the keyboard. The commission recommends that these texts be provided in an appropriate medium.

13 Electronic Instructional Media Systems

Electronic Instructional Media Systems (EIMS) represent a new and evolving format for textbooks. EIMS present unique problems of accessibility for braille readers. The commission wishes to become more proactive in assisting publishers in the development of EIMS that are accessible to braille readers.

The commission recommends that legislation be amended to mandate appointment of representatives to the State Board of Education's Software Advisory Committee and Advisory Committee for Technology Standards. These individuals must be knowledgeable about learning styles of braille readers and braille, its use and production, and effective use of technology in the presentation of braille.

14 Braille Producer and Consumer Communication

Links that result in close, helpful communication are important among teachers, parents, students, and braille producers. Braille textbook producers should take the initiative in establishing regular and direct communication links with teachers, parents, and students.

EIMS present unique problems of accessibility for braille readers.

15 Braille Producer and Publisher Communication

Communication between producers of braille textbooks, publishers, and typesetters of textbooks is essential to the effective production of braille textbooks. The Texas Education Agency should authorize braille textbook producers to communicate directly with textbook publishers regarding production of specific texts. Braille textbook producers should periodically provide summaries of these exchanges to the agency's Textbook Administration Division.

16 Commission's Resolution on Braille

Preparation of braille textbooks, preparation of teachers of braille reading, and delivery of instruction in braille reading are closely related and need to be considered together. The commission sent a resolution on these issues to the agency and is pleased and encouraged by the verbal response to its resolution. The Texas Education Agency is urged to continue to address the concerns presented by the commission.

17 Adoptions of State Textbooks

The commission considers it imperative that persons knowledgeable about braille, its preparation and use, be involved at the outset in deliberations regarding Texas textbook adoptions. The State, in passing HB 2277, demonstrated its commitment to braille as a necessary and vital part of a student's education. This commitment requires that every effort be made to select textbooks for adoption that lend themselves well to braille translation. It is recommended that legislation be amended so that one individual knowledgeable in braille be a member of every Proclamation Advisory Committee.

18 Continuation of the Commission

The Texas Commission on Braille Textbook Production is providing a vital service for Texas. Its work will extend beyond September 1993. The commission recommends that the SBOE and the Texas Education Agency sponsor legislation that will ensure the continuation of the commission for as long as necessary. Its new sunset date would be September 1995.

SUMMARY OF PROPOSED LEGISLATIVE RECOMMENDATIONS

PROBLEM:

The Texas Education Code requires publishers of literary textbooks to provide computerized textbook files on diskettes to the Central Education Agency for more speedy production of braille textbooks. Publishers are required to format the files in the American Standard Code for Information Interchange (ASCII).

The Texas Commission on Braille Textbook Production has determined that there are better formatting standards than ASCII for producing braille textbooks in the fastest and most efficient manner with braille translation software. One of these improved standards is Standard Generalized Markup Language (SGML), an emerging publishing industry textbook formatting arrangement which has been sanctioned by the American Association of Publishers (AAP) and the International Standards Organization (ISO).

Some publishers do not have the software capabilities to use SGML at this time and for them, ASCII should remain as an option.

ASCII and SGML may be seen as being at opposite ends of a formatting scale. ASCII data is not formatted and SGML provides detailed marking of text. Between ASCII and SGML, there are other formatting variations which some publishers may need to use in preparing computerized textbook files for brailling. Therefore, several options for formatting textbook data should be offered to publishers.

RECOMMENDATION (TEC Section 12.03(e)):

The Legislature should modify the Texas Education Code to require publishers submitting textbooks for adoption to provide the Central Education Agency with computerized textbook files for the production of braille textbooks if such computerized textbook files are requested by the State Board of Education. Publishers will arrange the computerized textbook files in one of several optional formats specified by the State Board of Education.

FISCAL IMPLICATIONS:

Offering options to publishers for formatting textbook files needed for brailling will minimize costs to them and allow each company to use the software systems currently on hand.

PROBLEM:

Braille reading students do not have access to workbooks which sighted students use in conjunction with the state-adopted textbooks.

RECOMMENDATION (TEC Section 12.03):

The Legislature should authorize the State Board of Education to acquire, purchase, and contract for free ancillary and supplementary instructional materials for the education of blind and visually handicapped public school students whenever publishers provide such materials to school districts for use by sighted students at no charge to the districts. Publishers should not be required to provide diskettes for ancillary and supplementary instructional materials.

FISCAL IMPLICATIONS:

Approximately $300,000 per year would be needed to braille ancillary materials which publishers provide to school districts at no charge for sighted students.

The legislature should authorize the State Board of Education to acquire, purchase, and contract for free ancillary and supplementary instructional materials for the education of blind and visually handicapped public school students whenever publishers provide such materials to school districts for use by sighted students at no charge to the district.

PROBLEM:

Each commission member provides expertise that is essential to accomplishing the commission's mission. Five of the 12 commission members are from outside Texas and, at their own expense, have traveled to the state for five two-day meetings of the commission. Several have indicated they would like to continue helping Texas but they cannot afford to pay for additional travel and lodging expenses.

RECOMMENDATION (TEC Section 12.03 (e-1)(3)):

The legislature should fund the travel and lodging expenses of commission members who are not employed by publishing companies which have contracts with the agency.

FISCAL IMPLICATIONS:

The cost of funding this recommended action will be minimal, approximately $20,000.

REFERENCES

Ricciuti, M. (1992). "Publishing Software Gets Serious." *Datamation*, December 1, 1992, pp. 65-69 and sidebar, "SGML: A New Document Interchange Standard," pp. 66.

O'Connor, M. (1992). "Markup, SGML, And Hypertext For Full-Text Databases: Part I." *CD-ROM Professional*, May 1992, pp. 112-113.

O'Connor, M. (1992). "Markup, SGML, And Hypertext For Full-Text Databases: Part II." *CD-ROM Professional*, July 1992, pp. 123-125.

Texas Education Agency
1701 North Congress Avenue
Austin, Texas 78701-1494

GE3 714 02

BEST COPY AVAILABLE